

Fig. 1

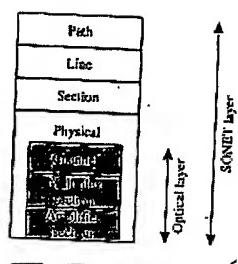
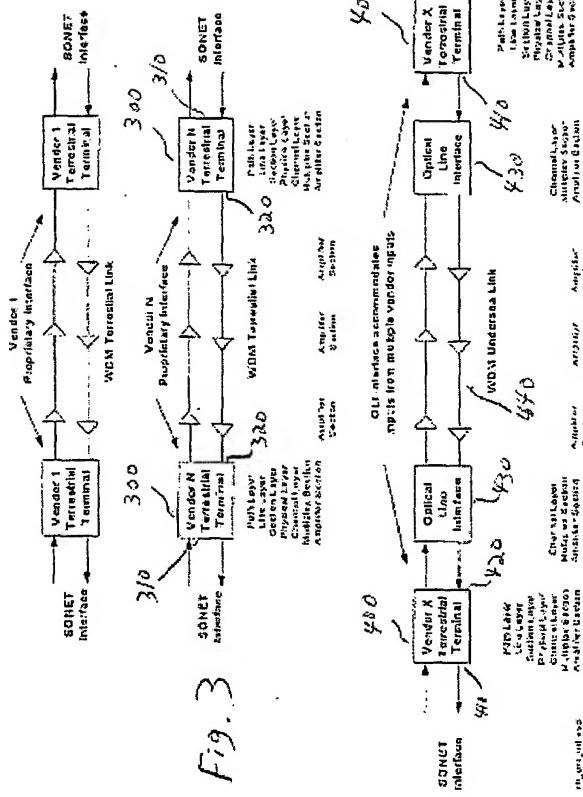
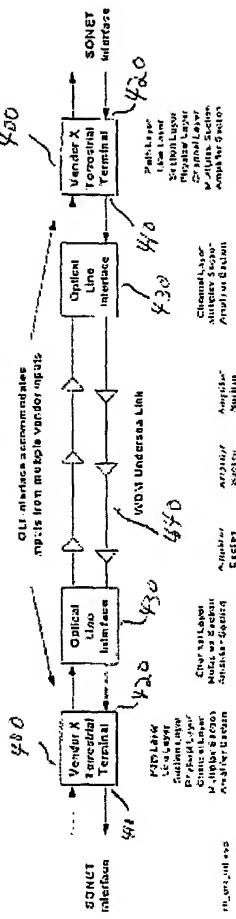


Fig. 2

**Application of Terrestrial Terminals to Undersat Networks using a Universal Interface and an Optical Signal Conditioner**



**Fig. 4**



#### Bolt-on Optical Signal Conditioner

The Bolt-on optical signal conditioner contains many functional elements. On the transmit side, the terminal input signal is monitored for optical performance which includes OSNR, Q, or BER. The signal is power equalized, multiplexed by a polarization multiplexer, optically amplified, and passed through a dispersion compensation device such as a dispersion compensating fiber (DCF) or a grating based dispersion compensation device.

On the receive side, the signal is amplified, compensated for dispersion, optically demultiplexed, and compensated for PMD. This line signal is monitored for optical performance, which includes OSNR, Q, or BER. The performance can be feed back to the transmit end over a telemetry channel to control launch signal equalization at the head end.

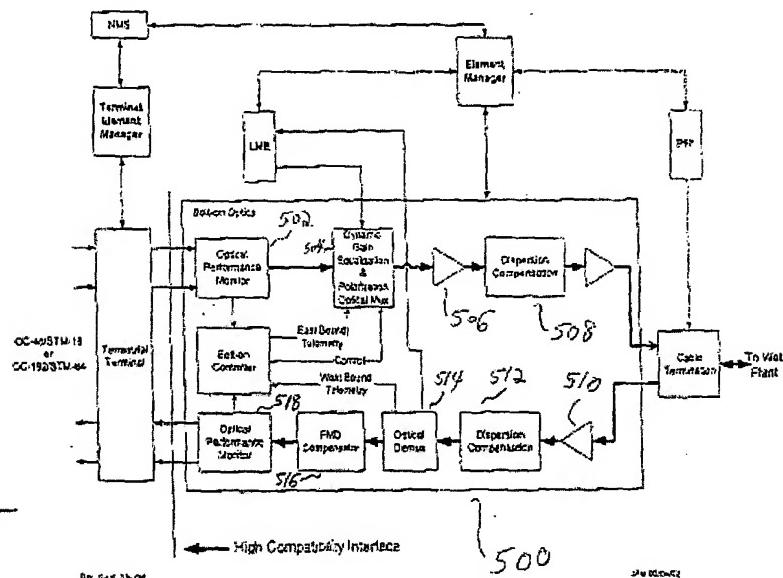


Figure 3 Bolt-on Optical Signal Conditioner Block Diagram